# PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form (http://bmjopen.bmj.com/site/about/resources/checklist.pdf) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below.

# **ARTICLE DETAILS**

TITLE (PROVISIONAL)	PARTNER - A service delivery model to implement optimal primary
	care management of people with knee osteoarthritis: Description of
	Development
AUTHORS	Egerton, Thorlene; Hinman, Rana S.; Hunter, David; Bowden,
	Jocelyn; Nicolson, Philippa; Atkins, Lou; Pirotta, Marie; Bennell, Kim

# **VERSION 1 - REVIEW**

REVIEWER	Eva Ekvall Hansson
	Lund University, Sweden
REVIEW RETURNED	03-Jul-2020

GENERAL COMMENTS	General comments
	This manuscript is well written and concerns a highly interesting
	topic, since OA is increasing in the population. The manuscript is
	generally well written. However, the development of the model is
	complex and the manuscript is therefore not easy to read and
	understand. I hope my comments will help in improving the
	readability.
	Please find my specific comments below.
	Title
	The title does not describe what kind of study this is, I suggest adding the word "description" in the title.
	adding the word description in the title.
	Abstract
	The first sentence in results is confusing: what new service? The
	aim was to describe the process of developing a new model to
	deliver recommended care. Is the new service a result of the new model?
	Conclusion: that a randomized controlled trial and process
	evaluation will follow is not a conclusion of this study.
	Introduction
	Appropriate.
	Aim
	Not the same as in the abstract. In the abstract the aim is to
	describe the process and here it is to describe the design. After
	reading the manuscript, I think the aim in the abstract best describe
	what is presented in the paper.
	Method
	Please describe how identifying and prioritizing optimal care for OA

was performed. How was gathering of evidence of existing models done? The method for the first stage needs to be explained. How was evidence on barriers and facilitators in stage 3 gathered? Are results from the focus groups conducted in stage 3 published in reference 27-29? References explaining the method for analysing results from the focus groups needs to be added.

# Results

Page 8, second paragraph: This paragraph is hard to understand. How was the national and international models examined? Which parts are results from this examination and which parts can be moved to background? Add references to the statement "Quality improvement projects within local primary care service exists but are not widely implemented". Also add references to the three last sentences in the paragraph.

Page 9 "Core principles to..." Is Wagners theoretical framework used in this study? Please clarify.

Page 10: Stakeholders involvement: The advantage and disadvantage of sourcing the opinions of the stakeholder should be moved to discussion and further described.

Page 11: The new model: The first paragraph is unclear: in what way was the alternatives considered? Using opinions from stakeholders? Describe the process for deciding which model to use.

Discussion Well written

## Conclusion

What the next step will be (the RCT and process evaluation) is not a conclusion of this study.

Tables and figures Clear.

References

See comment under "methods".

REVIEWER	Peter J Larmer
	AUT, New Zealand
REVIEW RETURNED	05-Jul-2020

GENERAL COMMENTS	Very well written paper, with only minor suggested alterations. My only concern as a reader is the number of acronyms which I did need to keep looking up the meaning.
	The reviewer provided a marked copy with additional comments.  Please contact the publisher fo full details.

# **VERSION 1 – AUTHOR RESPONSE**

Reviewer: 1

Reviewer Name: Eva Ekvall Hansson

Institution and Country: Lund University, Sweden

## 1. General comments

This manuscript is well written and concerns a highly interesting topic, since OA is increasing in the population. The manuscript is generally well written. However, the development of the model is complex and the manuscript is therefore not easy to read and understand. I hope my comments will help in improving the readability.

Please find my specific comments below.

Thank you very much. We appreciate the time taken to review our paper and your careful consideration. We agree that the changes made in response to the comments have improved readability.

## 2. Title

The title does not describe what kind of study this is, I suggest adding the word "description" in the title.

The title has been changed from: Development of the PARTNER model: A service delivery model to implement optimal primary care management of people with knee osteoarthritis

To: PARTNER - A service delivery model to implement optimal primary care management of people with knee osteoarthritis: Description of Development

## 3. Abstract

The first sentence in results is confusing: what new service?

The final sentence of Methods now reads:

"In Stage 3, the 'Care Support Team' component of the service delivery model was operationalized." The first sentence of results now reads:

"The focus of the PARTNER model is to provide patients with education, exercise and/or weight loss advice, and facilitate effective self-management through behaviour change support."

## 4. Abstract

The aim was to describe the process of developing a new model to deliver recommended care. Is the new service a result of the new model?

The PARTNER model as a whole is the new service. The new Care Support Team is a component of the new model of service delivery. This has been made clearer in the abstract, which now reads: "This paper describes the process of developing and operationalising a new model of service delivery to implement recommended care to people with knee OA in the Australian primary care setting."

# 5. Abstract

Conclusion: that a randomized controlled trial and process evaluation will follow is not a conclusion of this study.

This sentence has now been removed from the abstract.

# 6. Introduction

Aim: Not the same as in the abstract. In the abstract the aim is to describe the process and here it is to describe the design. After reading the manuscript, I think the aim in the abstract best describe what is presented in the paper.

Thank you for identifying this problem. We have adjusted the aim in the introduction so that it matches the aim of the abstract as suggested. The aim in the Introduction section now reads:

"In this article, we describe the process of developing and operationalising a new model of service delivery to implement recommended care for people with knee OA and fully integrate with existing primary care systems."

## 7. Method:

Please describe how identifying and prioritizing optimal care for OA was performed.

The following paragraph was moved from Results to Methods:

"Core components of optimal knee OA care were identified from clinical practice guidelines. Based on a systematic review of clinical guidelines of knee OA 4, five guidelines were considered up-to-date at the time (published since 2012) and scored highly in terms of quality 22 23: i) Osteoarthritis Research Society International (2014) 24, ii) European League against Rheumatology (2013) 5, iii) American Academy of Orthopaedic Surgeons (2013) 9, iv) National Institute for Health and Care Excellence (2014) 3, and v) American College of Rheumatology (2012) 25. Recommendations from these guidelines were extracted and pooled to produce a list of recommendations grouped under key clinical areas: Diagnosis, assessment and general management, non-drug conservative interventions, drug recommendations and surgical management. We focussed on 'strong recommendations' as determined by the specific rating scale used by the relevant guideline. We also incorporated relevant 'quality indicators' 26-28."

The results section now reads:

"Identifying and prioritizing core components of optimal knee OA care and quality indicators resulted in 36 practice recommendations that constitute optimal care for people with knee OA."

#### 8. Method:

How was gathering of evidence of existing models done? The method for the first stage needs to be explained.

Additional details have been added and some details were moved up from the results section. This section now reads:

"We also gathered evidence of existing models of OA care delivery and initiatives from Australia and internationally, plus empirical research on alternative methods of delivering core components of knee OA care. Existing models were identified through literature searching and personal contacts. Several existing national and international models/initiatives were examined 4 29-34 from which a set of key features important for optimal delivery, and a set of core principles to underpin care, were produced."

## 9. Method:

How was evidence on barriers and facilitators in stage 3 gathered?

Additional details have been added. The section now reads:

"To do this we firstly gathered evidence on barriers and facilitators to the key patient behaviours identified in Stage 1 by searching the literature for quantitative and/or qualitative studies on patient experiences, beliefs and preferences related to these identified behaviours."

# 10. Method:

Are results from the focus groups conducted in stage 3 published in reference 27-29? References explaining the method for analysing results from the focus groups needs to be added.

This data is not published elsewhere since the focus groups were not conducted for the purpose of answering a research question but to test our ideas for service design and gain feedback from stakeholders as part of this development process. The data from the focus groups was summarised

by the research team rather than analysed. The knowledge gained from stakeholder perspectives was incorporated into our design thinking. To make this clearer, the sentence in the manuscript now reads: "We also conducted informal discussions with patients and experts (unpublished),..."

## 11. Results:

Page 8, second paragraph: This paragraph is hard to understand.

The paragraph has been revised to improve clarity and readability. It now reads:

"The scoping exercise on current Australian OA care services found variation across jurisdictions, but most were providing care in tertiary hospital orthopaedic clinics 44. Quality improvement projects within local primary care services exist but are not widely implementable due to their focus on local contextual issues. Important findings from our examination of existing national and international models 4 29-34 and published systematic reviews 45-47 included that patient education, behaviour change support, goal-setting, shared decision-making and problem-solving skill-building are all helpful for facilitating effective self-management. A further finding was that lifestyle changes often require support over long periods of time by providers with specialist skills and ideally, expert knowledge of the condition 29 33 45 46. Therefore, proactive patient review was considered an important feature to include in a new service. In addition, delivery service design should consider flexible team roles 45-47, opportunities for task-sharing among staff 45 47, and efficient care co-ordination 29 30 45-47."

## 12. Results:

How were the national and international models examined?

See comment #8.

# 13. Results:

Which parts are results from this examination and which parts can be moved to background?

See comment #11. It should be clearer in the revised version that these are results, rather than background information.

## 14. Results:

Add references to the statement "Quality improvement projects within local primary care services exist but are not widely implementable".

This statement is not based on published reports but is a finding of our own interpretation of published papers and information gathering efforts by the research team, which contributed to our design thinking. The sentence has been revised to provide improved clarity and now reads: "Quality improvement projects within local primary care services exist, but in the opinion of the research team are not widely implementable due to their focus on local contextual issues."

# 15. Results:

Also add references to the three last sentences in the paragraph.

References have been added as follows:

"Quality improvement projects within local primary care services exist but are not widely implementable due to their focus on local contextual issues. Important findings from our examination of existing national and international models 4 29-34 and published systematic reviews 45-47 included that patient education, behaviour change support, goal-setting, shared decision-making and problem-solving skill-building are all important for facilitating effective self-management. A further finding was that lifestyle changes often require support over long periods of time by providers with

specialist skills and ideally, expert knowledge of the condition 29 33 45 46. Therefore, proactive patient review was considered an important feature to include in a new service. In addition, delivery service design should consider flexible team roles 45-47, opportunities for task-sharing among staff 45 47, and efficient care co-ordination 29 30 45-47."

## 16. Results:

Page 9 "Core principles to..." Is Wagners theoretical framework used in this study? Please clarify.

The following sentence has been added to the start of the paragraph:

"Core principles incorporated into the design included Wagner's theoretical framework for the management of chronic disease, the biopsychosocial model of healthcare and patient-centredness."

## 17. Results:

Page 10: Stakeholders involvement: The advantage and disadvantage of sourcing the opinions of the stakeholder should be moved to discussion and further described.

The sentence "Sourcing the opinions of the stakeholders in this way had advantages and disadvantages." has been removed from results.

The following has been added to the Discussion under 'Limitations and strengths of the development process':

"Similarly, gaining the opinions through focus groups and surveys of a wide range of stakeholders sourced from the community had some disadvantages. This was mainly due to some stakeholders holding beliefs inconsistent with research evidence and current recommended practice."

## 18. Results:

Page 11: The new model: The first paragraph is unclear: in what way was the alternatives considered? Using opinions from stakeholders? Describe the process for deciding which model to use.

The paragraph has been reworded for greater clarity and further explanation of the process of reaching our decisions:

"Since substantial changes to GP practice behaviour, or the health system, were not feasible, it was evident that in order for people with knee OA to receive the care they need, the bulk of care would have to be provided by health professionals other than GPs. Several alternative models were discussed by the development team, including models using community physiotherapists or practice nurses. Both these models were considered to have major practical barriers to implementation and large-scale roll-out. Thus, we decided that a model where care is provided remotely by a small team of highly-skilled, multi-disciplinary health professionals would be the most practical and sustainable method of delivering optimal care in the Australian healthcare context."

## 19. Conclusion:

What the next step will be (the RCT and process evaluation) is not a conclusion of this study.

The following sentence has been added as the conclusion:

"This article has served to demonstrate the application of current best practice methods for developing and operationalising a complex implementation strategy."

# 20. References:

See comment under "methods".

See comment #15.

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Reviewer: 2

Reviewer Name: Peter J Larmer

Institution and Country: AUT, New Zealand

1. General. Very well written paper, with only minor suggested alterations. My only concern as a reader is the number of acronyms which I did need to keep looking up the meaning. Please see document attached for further comments.

Thank you very much for the time taken to review our paper and your careful consideration. We have removed the following acronyms to improve readability:

BCT - behaviour change technique

BCI - behaviour change intervention

CME - Continuing Medical Education

MRC - UK Medical Research Council

2. Page 9. Core principles. 'Activated' I wonder if this word is well understood as to what you are meaning? would motivated be more appropriate or does this need further explanation?

Activation is the wording used in Wagner's Chronic Care Model. Explanation of the term has been added to the manuscript as follows:

- " 'activated' (a measure of self-management capabilities)"
- 3. Page 10. Stakeholder involvement. Should this be evidence-based care? There are GPs who are still recommending rest for OA!!

We agree with the sentiment. Further clarification has been provided as follows: "care recommended in high-quality clinical practice guidelines."

4. Page 11. Understanding context. 'to' needs to be added

Changed as suggested.

5. Page 22. Limitations and strengths. Add 'and'.

Not changed. The word 'and' was not required and would change the meaning.

# **VERSION 2 - REVIEW**

REVIEWER	Peter Larmer
	AUT
	New Zealand
REVIEW RETURNED	16-Aug-2020

GENERAL COMMENTS	Happy with the suggested alterations